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09/739,006	12/19/2000	Nobuyuki Kita	019519-280	2793

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EXAMINER

GILLIAM, BARBARA LEE

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 03/20/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/739,006

Applicant(s)

KITA, NOBUYUKI

Examiner

Barbara Gilliam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed 1/6/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed has been considered.
2. Claims 1-11 are pending. New claims 7-11 were added.
3. The 35 USC 102(b) rejection of Brinckman (GB 1,215,924) is withdrawn in light of Applicant's arguments. Applicant has successfully shown the thermo-recording element of Brinckman is different than the printing plate of the present application.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. New claim 11 requires that the water-receptive layer is not cross-linked. Applicant pointed to the paragraph bridging pages 19 and 20 for support. It is clear from this paragraph that a cross-linking agent may or may not be added however claim 11 is not excluding a cross-linking agent but the

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actual cross-linked nature of the water-receptive layer itself. In the preceding paragraph, "cross-linking agents capable of accelerating cross-linking of colloids may be added" which suggests the colloids of the water receptive layer will cross link anyway, without the assistance of a crosslinking agent.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in–

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

8. Claims 1 and 5-7 are rejected under 35 U.S.C. 102(e) as being anticipated by DeBoer et al.

a. In US Patent No. 6,110,645, DeBoer et al teach a method of making a lithographic printing plate comprising exposing a support, an ink receptive photothermal conversion layer and an ink repellant layer to a laser beam having an intensity great than $0.1 \text{ mW}/\mu^2$ wherein the ink repellant layer contains a crosslinked polymeric matrix containing a colloid of an oxide or a hydroxide of a metal selected from the group consisting of beryllium, magnesium, aluminum, silicon, gadolinium, germanium, arsenic, indium, tin, antimony, tellurium, lead, bismuth, a transition metal,

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and combinations thereof. The crosslinked polymeric matrix is derived from a crosslinking agent which is alkoxy silane, an alkyl titanate, an alkyl zirconate or an alkyl aluminate (claim 1). The ink repellant layer can be hydrophilic (claim 6) and the thickness of the layer can range from 0.05 to 1 micron (claims 8-9). Preferably aminopropyltriethoxysilane is used as the crosslinking agent (column 5, lines 11-16). The hydrophilic ink repellant layer meets the present limitations for the water-receptive layer. The ink receptive layer comprises a film forming binder such as polycarbonates, polyacrylates, polyesters, nitrocellulose, cellulose acetate propionate and cellulose acetate (column 4, lines 40-48). The ink receptive layer meets the present limitations for the ink-receptive layer wherein the binder meets the present limitations for the oleophilic organic high molecular compound.

b. Independent claim 1 is a product-by-process claim. Applicant is reminded of MPEP 2113: "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." However, in the present application the prior art teaches the process limitation as well. The ink receptive layer of Example 3 corresponds to the ink receptive layer of Example 1 wherein methyl ethyl ketone and methylisobutyl ketone were used to coat the carbon black, nitrocellulose and zirconium oxide containing layer. In Example 3, the hydrophilic ink repellant layer comprising 1.6 weight % aminopropyltriethoxysilane was coated using water and ethanol. Ethanol is capable of

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dissolving the nitrocellulose of the ink receptive layer as required in the present application.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeBoer et al in view of Vermeersch et al.

a. As indicated in the corresponding 102(e) rejection above, DeBoer et al. (US Patent No. 6,110,645) teach a method of making a lithographic printing plate comprising exposing a support, an ink receptive photothermal conversion layer and an ink repellant layer to a laser beam having an intensity great than $0.1 \text{ mW}/\mu^2$ wherein the ink repellant layer contains a crosslinked polymeric matrix containing a colloid of an oxide or a hydroxide of a metal. The crosslinked polymeric matrix is derived from a crosslinking agent which is alkoxy silane, an alkyl titanate, an alkyl zirconate or an alkyl aluminate (claim 1). The patent fails to specify the crosslinking polymer of the ink repellant layer (column 5, lines 11-16). It would have been obvious to use conventional hydrophilic crosslinking resins including the hydrophilic binders of Vermeersch et al.

b. In US Patent No. 6,210,857, Vermeersch et al teach a heat-sensitive imaging element for providing a lithographic printing plate, comprising a lithographic

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base with a hydrophobic oleophilic surface and a top layer comprising a compound capable of converting light into heat and a hydrophilic polymer, characterized in that the hydrophilic polymer is crosslinked (abstract). A particularly suitable crosslinked hydrophilic layer may be obtained from a hydrophilic binder crosslinked with a crosslinking agent such as tetra-alkylorthosilicate. As the hydrophilic binder homopolymers and copolymers of hydroxyethyl acrylate or hydroxyethyl methacrylate can be sued (column 4, lines 50-65). In Examples 1-6, the hydrophilic binder is used in an amount of 9.1 weight %. The crosslinked hydrophilic layer preferably contains substances that increase the mechanical strength and the porosity of the layer. For this purpose colloidal silica can be used (column 5, lines 4-13).

c. Therefore it would have been *prima facie* obvious to one of ordinary skill in the art to make and image a printing plate comprising a support, an ink receptive photothermal conversion layer and an ink repellant layer with a laser beam wherein the ink repellant layer contains a crosslinked polymeric matrix containing a hydrophilic binder, a crosslinking agent and a colloid of an oxide or a hydroxide of a metal with reasonable expectation of obtaining a printing plate with high image quality (DeBoer et al; column 3, lines 20-24) and mechanical strength (Vermeersch et al; column5, lines 4-13).

11. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeBoer et al. in view of Inno et al.

a. As indicated in the corresponding 102(e) rejection above, DeBoer et al. (US Patent No. 6,110,645) teach a method of making a lithographic printing plate

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comprising exposing a support, an ink receptive photothermal conversion layer and an ink repellant layer to a laser beam having an intensity great than $0.1 \text{ mW}/\mu^2$ wherein the ink repellant layer contains a crosslinked polymeric matrix containing a colloid of an oxide or a hydroxide of a metal. The crosslinked polymeric matrix is derived from a crosslinking agent which is alkoxy silane, an alkyl titanate, an alkyl zirconate or an alkyl aluminate (claim 1). DeBoer et al. do not teach a protective layer for the printing plate. In US Patent No. 6,500,599 B1, Inno et al teach coating a protective layer over a hydrophilic layer to protect the surface hydrophilicity of the hydrophilic layer. It is preferred that the hydrophilic protective layer is easily removed with water or a fountain solution (column 13, line 59 – column 14, line 11). Therefore it would have been obvious to coat the printing plate of DeBoer et al. with a protective layer based on the teachings of Inno et al. to protect the surface hydrophilicity of the ink repellant layer wherein the protective layer is easily removed with water or fountain solution. The protective layer meets the present limitations for the overcoat layer. Fountain solution is used during printing. Therefore based on this teaching, the protective layer can be removed upon printing.

Allowable Subject Matter

12. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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a. There is no teaching or suggestion in the prior art of record to incorporate a compound capable of converting light to heat in the protective layer of Inno et al (US 6,500,599 B1) as required in the present claim.

Response to Arguments

13. Applicant's arguments filed January 6, 2003 have been fully considered but they are not persuasive.

a. Applicant has argued the process limitations of the product-by-process claims (i.e. the water-receptive layer formed using a coating solution comprising a solvent capable of dissolving the organic high molecular compound of the ink-receptive layer in a proportion of 1 to 40 weight % of the total solvents in the coating solution). Applicant argued that it is not certain that ethanol is capable of dissolving nitrocellulose. Applicant submitted an excerpt from a Japanese language Chemical Handbook which indicates that the solubility of nitrocellulose depends on the nitrogen content however, Applicant has not present sufficient evidence to show nitrocellulose is not soluble in ethanol. The excerpt submitted was not translated into English. Applicant is encouraged to submit an Information Disclosure Statement with the Japanese language Chemical Handbook excerpt (with the English translation) cited therein in the future if it is desired to have this excerpt considered and made of record. Applicant also stated that "even if ethanol is capable of dissolving the nitrocellulose resin, it still does not meet the recitation of claim 1 that requires the presence of the solvent in a proportion of 1 to 40 wt. % of the total solvents in the coating solution." Applicant concluded the amount of ethanol present in Example 3 of DeBoer et al. is far below 1%, required in

claim 1. Again these arguments are with respect to the process limitation of the product-by-process claim. Applicant has not successfully shown the product of the present application is different than that of DeBoer et al. Therefore the Examiner maintains the claims are unpatentable over DeBoer et al. and DeBoer et al. in view of Vermeersch et al.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. US Patent Application Publication 2001/0024766 A1 issued as US Patent No. 6,468,717 B2

b. In US Patent No. 6,387,595 B1, Teng teaches on-press developable lithographic plate comprising on a substrate a photosensitive layer and a top ultrathin ink and/or fountain solution soluble or dispersible overcoat (abstract).

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Gilliam whose telephone number is 703-305-1330. The examiner can normally be reached on Monday through Friday, 8:00 AM - 6:00 PM.

a. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter can be reached on 703-308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

b. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



BG
March 12, 2003



ROSEMARY ASHTON
PRIMARY EXAMINER